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## STUDIES IN CRATÆGUS. II.<sup>1</sup>

C. D. BEADLE.

**Cratægus aprica**, n. sp.—A large branching shrub, with one or several stems, 3–5<sup>m</sup> tall, or occasionally arborescent and attaining a height of 6–7<sup>m</sup> under favorable conditions: bark of the trunk and larger stems dark gray or nearly black, often conspicuously furrowed, the surface being broken into small, irregular, persistent, plate-like scales: branches ascending, armed with stout, either straight or slightly curved spines 2–6<sup>cm</sup> long, which are frequently branched and of greater size on the trunk and larger branches; branchlets at first villose-pubescent, but ultimately glabrous, marked by numerous small, pale lenticels, the bark reddish-brown, after the first winter changing to gray, with tinges of red or brown, the whole forming a compact, oval, or round head: winter buds globose, bright reddish-brown, the outer scales of the terminal ones thick and pointed: leaves thin to subcoriaceous in texture, obovate, rhombic-ovate, or orbicular in outline, 1.5–7<sup>cm</sup> long including the petiole, 1–5<sup>cm</sup> wide, the borders dentate or crenate-dentate and conspicuously glandular, more or less lobed near the acute apex, or on vigorous shoots more deeply lobed, especially below the middle of the blade, usually narrowed but sometimes rounded at the base and prolonged into a margined petiole 7<sup>mm</sup>–2<sup>cm</sup> long, which, like the base of the leaf, bears numerous black colored glands; stipules linear, linear-lanceolate, or on strong shoots foliaceous and lunate, pectinately-glandular or glandular-serrate, caducous: flowers, which appear in the vicinity of Biltmore, North Carolina (type locality), when the leaves are nearly grown, borne in 3–6-flowered, pubescent or pilose-pubescent, bracteate corymbs; pedicels 1–2<sup>cm</sup> long, pilose-pubescent, bearing one or two small pectinately-glandular, deciduous bractlets: calyx obconic, pubescent, at least near the

<sup>1</sup> Continued from BOT. GAZ. 28: 417. 1899.

base, the divisions 3–5<sup>mm</sup> long, glandular-serrate, or pectinately-glandular: petals rather broader than long, 9–13<sup>mm</sup> by 8–12<sup>mm</sup>, with a short broad claw at the base: stamens 10, 5–8<sup>mm</sup> long, the anthers light yellow: styles 3–5, surrounded at the base with pale hairs: fruit globose, 9–14<sup>mm</sup> in diameter, red or orange-red, ripening and falling after the middle of September, the flesh thick, yellowish, pleasant to the taste: nutlets 3–5, hard and bony, 6–8<sup>mm</sup> long, 3–4<sup>mm</sup> measured dorso-ventrally, the back ridged and grooved and the lateral faces nearly plane, a volume of 125<sup>cc</sup> containing about 1598 clean and dry seeds.

*Cratægus aprica* has been confounded with *C. flava* Ait.<sup>2</sup> from which it differs in the shape and color of the fruit. The new species is abundantly represented in the mountainous region of North Carolina, and has been found in similar situations in Tennessee, Alabama, and Georgia, inhabiting sunny exposures in dry, rocky, or clayey soils.

The type material is preserved in the Biltmore herbarium.

***Cratægus sororia*, n. sp.**—A tree 5–7<sup>m</sup> tall, with a trunk 1–1.5<sup>dm</sup> in diameter, dividing two or three meters above ground into several stout, ascending or spreading branches, which form an oval or round head; or usually smaller, 3–4<sup>m</sup> in height, forming a large shrub with one or more stems: bark gray, tinged with brown or nearly black, furrowed and broken on the surface into small, persistent scales: branchlets armed with gray or chestnut-brown spines 1.5–3.5<sup>cm</sup> long: buds globose, bright reddish-brown: leaves 2–6<sup>cm</sup> long, including the petiole, 1–3<sup>cm</sup> broad; or on vigorous shoots sometimes 6<sup>cm</sup> broad, obovate, round-ovate, or nearly orbicular in outline, or on the shoots even broader than long, with a truncate or subcordate base, acute or rounded at the apex, either gradually narrowed or abruptly contracted at the base and prolonged into a margined, glandular petiole 5<sup>mm</sup>–1.5<sup>cm</sup> long, the borders sharply and irregularly serrate and incisely lobed, especially above the middle, the serratures glandular-apiculate; sparingly pubescent when young (at least along the petiole, midrib, and principal veins), becoming glabrous, or with a few hairs in the axils of the prominent veins and bordering the

<sup>2</sup> Hort. Kew 2: 169. 1789.

petiole, bright green on the upper surface, paler below, fading in the autumn to tones of yellow and brown, or with occasional dashes of red: flowers, which appear in the vicinity of Rome, Georgia (type locality), during the last of April or first of May, and when the leaves are nearly grown, borne in pubescent, glandular-bracteate 3-6-flowered corymbs; pedicels 5-15<sup>mm</sup> long, sparsely pubescent, bearing one or more pectinately-glandular, caducous bractlets: calyx obconic, usually with a few soft hairs, the divisions 6-8<sup>mm</sup> long, glandular-serrate: stamens normally 20: styles 2-5, commonly 3, surrounded at the base with pale hairs: fruit large, globose, 12-18<sup>mm</sup> in diameter, red, red and yellow, or yellowish-red, ripening and falling after the middle of September, the flesh thick, soft, and pleasant to the taste: nutlets usually 3, hard and bony, 7-9<sup>mm</sup> long, 4-5<sup>mm</sup> thick, measured from the back to the inner angle, the lateral faces nearly plane and the back ridged and grooved.

*Cratægus sororia* is related to *C. aprica* above proposed and to *C. flava* Aiton, *l. c.* From the former it may be separated by the more numerous stamens, larger fruit and calyx segments, and coarser seeds; while from the last named species it differs from the accepted figures and descriptions which have been drawn from specimens in cultivation in Europe, in the shape of the fruit and the pubescent corymbs and petioles. The proposed species is abundantly represented on wooded hills, slopes, and rocky exposures, and in old fields from northwestern Georgia and adjacent Alabama southward to Florida.

The type material is preserved in the Biltmore Herbarium.

***Cratægus Alleghaniensis*, n. sp.**—A large shrub 2-4<sup>m</sup> tall, or infrequently a small tree 5<sup>m</sup> in height: bark gray, sometimes tinged with brown or much blackened: branches ascending, armed with slender, gray or reddish-brown spines 1.5-4<sup>cm</sup> long, the whole forming an oval or round head; the growth of the season clothed with reddish-brown bark and marked by small, pale lenticels: leaves ovate, oval, or nearly orbicular in outline, 2-8<sup>cm</sup> long, including the petiole, 1.5-6<sup>cm</sup> wide, very sharply and irregularly serrate and incisely lobed, acute at the apex, either abruptly narrowed or rounded at the base, or on vigorous shoots subcordate and prolonged into a margined, glandular petiole

5<sup>mm</sup>–2<sup>cm</sup> long, bright green on the upper surface, slightly paler below and with 3–4 prominent pairs of veins, sparsely pubescent when young, especially on the upper surface, soon becoming glabrous: flowers, which open in the vicinity of Valley Head, Alabama (type locality), the first of May, disposed in simple, 3–6-flowered corymbs; pedicels 1–2<sup>cm</sup> long, bearing one or more small, linear, or lanceolate, pectinately-glandular caducous bractlets: calyx obconic, glabrous, the divisions 4–6<sup>mm</sup> long, glandular-serrate: petals 7–9<sup>mm</sup> broad, 9–12<sup>mm</sup> long, the claw at the base narrow: stamens normally 10, 4–6<sup>mm</sup> long, the anthers purple: styles 2–5, mostly 3–4, surrounded at the base with pale hairs: fruit, which ripens after the middle of September, globular-pyriform, red, 9–14<sup>mm</sup> long, 8–12<sup>mm</sup> broad: nutlets 2–5, usually 3–4, hard and bony, 5–7<sup>mm</sup> long, about 3<sup>mm</sup> thick measured from the back to inner angle, the lateral faces nearly plane and the back grooved and ridged.

*Cratægus Alleghaniensis* is abundant on Lookout mountain above Valley Head, Alabama, growing on rocky exposures or in the shade of oaks and pines. It is related to *C. aprica* above proposed, from which it may be distinguished by the less glandular foliage and inflorescence, the form and darker color of the fruit, purple anthers, and the sharply serrate borders of the leaf-blades.

The type material is preserved in the Biltmore Herbarium.

**Cratægus venusta** n. sp.—A tree seldom more than 8<sup>m</sup> tall, or frequently a large branching shrub growing on rocky slopes or occasionally on the banks of small streams: flowers, which open about April 20, in the vicinity of Birmingham, Alabama (type locality), and when the leaves are half grown, 2–2.5<sup>cm</sup> or occasionally more in diameter, disposed in 3–6-flowered corymbs; pedicels 1.5–2<sup>cm</sup> long, glabrous, bearing two or three pectinately-glandular, deciduous bractlets which vary from 5<sup>mm</sup> to 1.5<sup>cm</sup> in length and from 2–4<sup>mm</sup> in width: calyx obconic, smooth, the segments acute, 4–6<sup>mm</sup> long, 1.5–3<sup>mm</sup> wide, glandular-serrate or often pectinately-glandular below the middle: petals nearly orbicular, rather broader than long, 9–12<sup>mm</sup> wide, 8–10<sup>mm</sup> long, with a short and broad claw at the base: stamens normally 20, 4–8<sup>mm</sup> long, the anthers yellow: pistils 3–5, surrounded at the

base with pale hairs: fruit which ripens and falls after the first of October, globose or slightly oval, 9–13<sup>mm</sup> wide, 9–15<sup>mm</sup> long, dull red to greenish-red when fully ripe, sometimes, when more exposed, brighter, and frequently presenting surfaces of russet-red; the cavity 3–5<sup>mm</sup> broad and nearly as deep, surrounded by the remnants of the stamens: nutlets 3–5, hard and bony, 6–9<sup>mm</sup> long, 3.5–5<sup>mm</sup> measured dorso-ventrally with the lateral faces nearly plane and the back grooved and ridged: leaves thin to subcoriaceous, sparsely pubescent when young, soon smooth, bright green on the upper surface, paler below, showing 4–7 pairs of prominent veins, from obovate to ovate in outline, occasionally on strong shoots round-ovate, 2.5–12<sup>cm</sup> long, including the petiole, 1–6<sup>cm</sup> wide, acute at the apex, rounded or narrowed at the base into a narrowly winged and remotely glandular petiole 7<sup>mm</sup>–4<sup>cm</sup> long; the borders irregularly or doubly serrate and incisely lobed, with minutely glandular-tipped serratures: stipules linear or linear-lanceolate, pectinately-glandular, caducous: bark of the trunk varying from ashy-gray to light-brown, slightly fissured: branches spreading or ascending, bearing numerous stout, dark chestnut-brown, or gray spines 3–7<sup>cm</sup> long, or the older branches and frequently the trunk armed with strong much branched spines of greater size; the bark reddish-brown, marked by small, pale lenticels: buds globular, bright reddish-brown.

*Cratægus venusta* is abundantly represented in the Red Mountain region of Alabama, where it was apparently first discovered by Mr. C. L. Boynton of the Biltmore Herbarium, and later by Professor C. S. Sargent of the Arnold Arboretum. The new species is closely related to *C. Sargentii* Beadle,<sup>3</sup> differing mainly in the more numerous-flowered corymbs, shorter and stouter pedicels, yellow anthers, narrower and less persistent calyx lobes, and the strikingly obovate and elongated outline of the larger leaves.

The type material is preserved in the Biltmore Herbarium.

**Cratægus Ashei**, n. sp.—A tree seldom attaining a height of more than 6<sup>m</sup> or commonly a large branching shrub with one or more stems: bark of the trunk and older branches light gray or reddish-brown, smooth on the smaller plants, fissured and

<sup>3</sup> BOT. GAZ. 28: 407. 1899.

slightly scaly on the trunk of larger individuals: branches ascending, armed with stout, simple or branched, gray or chestnut-brown spines 2–5<sup>cm</sup> long, forming a pyramidal or oval head; branchlets at first pubescent, becoming smooth, the bark reddish-brown or gray, sprinkled with small, pale lenticels: buds globular, bright reddish-brown, the terminal on strong shoots with thick, acute, slightly spreading scales: leaves, which are about half grown at flowering time, ovate, round-ovate, or occasionally obovate, 3–9<sup>cm</sup> long including the petiole, 2–6<sup>cm</sup> wide, or occasionally larger on vigorous shoots, rounded or acute at the apex, abruptly contracted or wedge-shaped at the base and prolonged into a margined, pubescent petiole 5<sup>mm</sup>–2<sup>cm</sup> long, which, as well as the base of the blade, bears several sessile or stalked dark colored glands, the borders sharply and often doubly serrate, the serratures tipped with minute black glands, the upper surface pubescent, becoming nearly smooth with age, bright green and lustrous, pale green on the lower surface, more densely and permanently pubescent, especially along the midrib and principal veins, which are displayed in 5–7 pairs, texture firm to nearly coriaceous; stipules narrowly lanceolate, straight or falcate, frequently foliaceous and lunate on vigorous shoots, pectinately-glandular or glandular-serrate: flowers, which expand in the vicinity of Montgomery, Alabama (type locality), early in May, produced in simple or branched 3–10-flowered, glandular-bracteate, pubescent corymbs, 1.5–2.5<sup>cm</sup> in diameter: calyx obconic, pilose or pubescent, the divisions lanceolate, 7–10<sup>mm</sup> long, 3–5<sup>mm</sup> wide, smooth or nearly so on the outer surface, pubescent on the inner, pectinately-glandular or incisely glandular-serrate, reflexed after anthesis: petals slightly broader than long, 10–14<sup>mm</sup> by 9–12<sup>mm</sup>: stamens normally 20, 6–9<sup>mm</sup> long, the anthers yellow: styles 3–5, surrounded at the base with pale hairs: pedicels 1.5–3<sup>cm</sup> long, pubescent or pilose, bearing a linear or lanceolate, pectinately-glandular bractlet: fruit, which ripens and falls the last of September and early in October, red, more or less pubescent, globose, 10–14<sup>mm</sup> in diameter or occasionally slightly oval; cavity 4–6<sup>mm</sup> wide, surrounded

by the persistent calyx lobes and remnants of the stamens: nutlets 3-5, hard and bony, displaying a prominent ridge on the back, or conspicuously grooved and ridged, 6-9<sup>mm</sup> long, 4-6<sup>mm</sup> measured from the back to inner angle, the lateral faces nearly plane.

*Cratægus Ashei* has been found in the abandoned fields and woodlands, generally in clayey soil, of Montgomery county, Alabama. The species is related to *C. Harbisoni* Beadle,<sup>4</sup> from which it may be distinguished by the comparatively simple and less floriferous corymbs, more lucid and less pubescent foliage, and by the attenuated calyx lobes. I take pleasure in associating with this species the name of Mr. William Willard Ashe, forester of the geological survey of North Carolina.

The type material is preserved in the Biltmore Herbarium.

***Cratægus senta*, n. sp.**—A small tree 5-6<sup>m</sup> high, or more frequently a large shrub with one or more stems, bark of the trunk rough, dark gray, usually much blackened near the base: branches spreading, slightly pendulous or recurved, zig-zag, clothed with smooth, dark or brownish-gray bark and armed with stout, gray or chestnut-brown spines 1.5-6<sup>cm</sup> long: leaves obovate, obovate-cuneiform, or on vigorous shoots round-ovate to nearly orbicular, 2-7<sup>cm</sup> long including the petiole, 7<sup>mm</sup>-5<sup>cm</sup> wide, prolonged into a margined, glandular petiole 5<sup>mm</sup>-2<sup>cm</sup> long, the borders deeply and irregularly serrate and incisely lobed, especially above the middle of the blade, the serratures glandular-tipped, bright green and shining on the upper surface, pale below and displaying several pairs of conspicuous ascending veins, pubescent at the time of unfolding, soon becoming nearly glabrous, except on the petioles and in the axils of the prominent veins, and fading to tones of yellow, red and brown: flowers, which appear early in May in the vicinity of Biltmore, North Carolina (type locality), and when the leaves are nearly grown, borne in simple, pubescent 3-6-flowered corymbs; pedicels 1-2.5<sup>cm</sup> long, densely pubescent when young, bearing one or two linear, caducous bractlets: calyx obconic, pubescent, the divisions 4-6<sup>mm</sup> long, glandular-serrate: petals 8-12<sup>mm</sup> in diameter, rather longer than broad, the claw at the base short and

<sup>4</sup> BOT. GAZ. 28: 413. 1899.

broad: stamens normally 20, 5–7<sup>mm</sup> long: styles 3–5, surrounded at the base with pale hairs: fruit globose, 10–14<sup>mm</sup> in diameter, red, ripening and falling the last of September and beginning of October: nutlets 3–5, hard and bony, 7–9<sup>mm</sup> long, 4–5<sup>mm</sup> measured from back to inner angle, the back shallowly grooved and the lateral faces nearly plane.

*Cratægus senta* is abundantly represented in abandoned fields and in open woods near Biltmore, North Carolina, and was referred to by me in an article published in the BOTANICAL GAZETTE<sup>5</sup> under the name *C. elliptica*. The new species is related to *C. Michauxi* Pers.<sup>6</sup> (*C. glandulosa* Michx.,<sup>7</sup> not Aiton or Willdenow), from which it may be recognized by the longer petioles and pedicels, the sharply cut and nearly smooth leaves and less glandular characters of foliage and inflorescence.

The type material is preserved in the Biltmore Herbarium.

**Cratægus Alabamensis**, n. sp.—A tree 4–6<sup>m</sup> tall, or more commonly a large branching shrub with one or more stems, and spreading, often pendulous branches: bark rough, gray tinged with brown, or much blackened near the base: branchlets at first villose-pubescent, often puberulous in their first winter, but ultimately glabrous, gray tinged with reddish-brown, or even brighter on the younger wood, slender, zig-zag, armed with dark gray or chestnut-brown spines 1.5–4<sup>cm</sup> long, or sometimes longer and branched on the older branches and trunk: winter buds globose, bright reddish-brown: leaves obovate or obovate-cuneiform, rounded at the apex and often with a short point at the end of the midrib or occasionally very abruptly contracted into an acute tip, gradually narrowed or cuneiform at the base and prolonged into a margined, pubescent, glandular petiole 7<sup>mm</sup>–2.5<sup>cm</sup> long, 2–7<sup>cm</sup> long including the petiole, 1–3.5<sup>cm</sup> wide, or even larger on the shoots, pubescent at the time of unfolding, especially along the principal veins, and at maturity subcoriaceous or thinner, bright green and lustrous above and pale on the lower surface, the borders crenate-dentate or serrate, especially above the middle, glandular-serrate or entire near the base; stipules linear or linear-oblong, on the strong shoots

<sup>5</sup> BOT. GAZ. 25: 447. 1898.

<sup>6</sup> Syn. Plant. 2: 38. 1807.

<sup>7</sup> Flora Bor.-Am. 1: 288. 1803.

lunate or variously lobed, pectinately-glandular or glandular-ser-rate, caducous: flowers, which appear when the leaves are almost fully grown, borne in simple or branched, 3-9-flowered, densely-pubescent corymbs, and open in the vicinity of Montgomery, Alabama, (type locality), early in April; pedicels 1-2.5<sup>cm</sup> long, densely pubescent, bearing one or more small, glandular, caducous bractlets: calyx obconic, pubescent, the divisions 6-8<sup>mm</sup> long, glandular-serrate, reflexed after anthesis: petals orbicular or longer than broad, about 1<sup>cm</sup> in diameter, with a short and broad claw at the base: stamens normally 20, 5-7<sup>mm</sup> long, the anthers yellow: styles 2-5, usually 3, surrounded at the base with pale hairs: fruit large, elongated, 1.5-2<sup>cm</sup> long, 1-1.5<sup>cm</sup> wide, red, ripening early in August: nutlets usually 2-3 hard and bony, 8-10<sup>mm</sup> long, 3-4<sup>mm</sup> measured from the back to the inner angle, the lateral faces nearly plane and the back grooved and ridged.

*Cratægus Alabamensis* is abundant in dry, clayey soil near Montgomery, Alabama, growing in open woods or in cleared grounds. It is evidently related to *C. Michauxi* Pers. *l. c.*, from which it differs in form and size of the fruit, less glandular foliage, and attenuated calyx segments.

The type material is preserved in the Biltmore Herbarium.

**Cratægus pinetorum**, n. sp.—A shrub 1-5<sup>m</sup> tall growing in dry or rocky woods where the prevailing forest growth consists of pines, oaks, and hickories: stems one or more, clothed with smooth or roughened, dark gray bark, which is frequently blackened near the base: branches slender, armed with slender, straight or curved, dark gray or chestnut-brown spines 1-5<sup>cm</sup> long, the growth of the season covered with smooth, reddish-brown bark which is marked by small pale lenticels, becoming in the second year dark gray tinged with brown: leaves ovate, oval or obovate, 2.5-9<sup>cm</sup> long including the petiole, 1.5-5<sup>cm</sup> wide, sparingly pubescent on the midrib and veins on the upper surface when young, soon glabrous, acute at the apex, sharply and irregularly serrate and incisely lobed, the serratures minutely glandular-apiculate, narrowed or rounded at the base and prolonged into a margined, sparsely-glandular petiole 1-2.5<sup>cm</sup> long,

thin in texture, bright green on the upper surface, below paler and displaying 3-5 pairs of ascending, prominent veins; stipules linear or linear lanceolate, glandular, caducous: flowers, which open in the vicinity of Albertville, Alabama (type locality), about the first of May, and when the leaves are nearly grown; produced in simple, glandular-bracteate 3-6-flowered corymbs; pedicels 1-2<sup>cm</sup> long, bearing one or more narrow, pectinately-glandular, caducous bractlets; calyx obconic glabrous, the divisions 3-5<sup>mm</sup> long, glandular-serrate: petals orbicular, or a little broader than long, about 8-10<sup>mm</sup> in diameter: stamens normally 20, 4-6<sup>mm</sup> long: styles 3-5, surrounded at the base with pale hairs: fruit, which ripens in September, subglobose, 7-10<sup>mm</sup> in diameter, changing from tones of green and yellow to light red when fully ripe, the flesh thin: nutlets 3-5, hard and bony, 5-7<sup>mm</sup> long, 3-4<sup>mm</sup> measured from the back to the inner angle, the lateral faces nearly plane and the back ridged and grooved.

*Cratægus pinetorum* is probably related to and easily contrasted with *C. Boyntoni* Beadle<sup>8</sup>, from which it may distinguished by the smaller fruit and more numerous stamens.

The type material is preserved in the Biltmore Herbarium.

***Cratægus rubella*, n. sp.**—A shrub 1-4<sup>m</sup> tall, growing in upland woods: stems one or several, much branched, clothed with gray or reddish-brown bark, either smooth or slightly fissured and scaly: branchlets numerous, armed with slender, straight or slightly curved gray or chestnut-brown spines 1.5-4<sup>cm</sup> long, or on the older plants nearly destitute of spines back to the larger branches: leaves oval, ovate or obovate, 3-9<sup>cm</sup> long including the petiole, 1.5-4.5<sup>cm</sup> broad, thin at first, becoming firm in texture, sparingly pubescent when young especially on the upper surface, soon glabrous, sharply and doubly serrate to near the base, and incisely lobed above the middle of the blade, acute at the apex, narrowed at the base and prolonged into a margined, sparsely-glandular petiole 1-2.5<sup>cm</sup> long, reddish-green or purplish at the time of unfolding, becoming bright green above, paler below and fading with decided tones of yellow; stipules oblong

<sup>8</sup> Bot. Gaz. 28: 409. 1899.

or linear-lanceolate, pectinately-glandular, early deciduous: flowers, which appear when the leaves are nearly grown, borne in simple, 3-6-flowered glandular-bracteate corymbs, and opening in the vicinity of Valley Head, Alabama (type locality), about the first of May; pedicels 1-2<sup>cm</sup> long, bearing one to three pectinately-glandular, deciduous bractlets: calyx obconic, the segments 4-6<sup>mm</sup> long, glandular-serrate: petals rather broader than long, 8-12<sup>mm</sup> wide, 7-10<sup>mm</sup> long, with a short, broad claw at the base: stamens normally 10, sometimes united in pairs and appearing to be fewer, 5-7<sup>mm</sup> long, the anthers light purple: styles 2-4, rarely 5, surrounded at the base with pale hairs: fruit red, pyriform or oval, 12-15<sup>mm</sup> long, 10-12<sup>mm</sup> wide, ripening after the middle of September: nutlets 2-3, rarely 4-5, hard and bony, 6-7<sup>mm</sup> long, 3-4<sup>mm</sup> measured dorso-ventrally, the lateral faces nearly plane and the back ridged and grooved.

*Cratægus rubella* is abundant on Lookout mountain above Valley Head, Alabama, growing in the shade of oaks and pines, and has been collected in similar situations in eastern Tennessee and western North Carolina. It has been customary to refer this species to *C. flava*, *C. rotundifolia*, and *C. coccinea*, but I am inclined to place it near and compare it with *C. Boyntoni* Beadle, *l. c.*, from which it differs conspicuously in the outline of the leaves, shape and color of the fruit, and the purple color of the anthers.

The type material is preserved in the Biltmore Herbarium.

**Cratægus straminea**, n. sp.—A low shrub, about 1<sup>m</sup> in height, frequently growing in large patches in upland woods, or occasionally attaining larger proportions, 2-3<sup>m</sup> tall, and developing from one or more stems a coarse shrub with loose or straggling outline: branches gray, tinged with brown or reddish-brown, armed with slender, curved or straight spines 1.5-6<sup>cm</sup> long which vary from gray to chestnut-brown in color: leaves oval, ovate or round-ovate in outline, acute at the apex, abruptly contracted or rounded, or on vigorous shoots truncate or subcordate at the base, acutely incised or slightly 5-9 lobed, and sharply and irregularly serrate except at the extreme base of the blade, the serratures glandular-apiculate, thin to subcoriaceous in texture, 2.5-10<sup>cm</sup> long including the petiole, 1.5-6<sup>cm</sup> broad, sparingly

pubescent when young, becoming glabrous with age, or with a few hairs along the midrib and principal veins which are disposed in 3-5 pairs; petioles winged,  $7^{\text{mm}}$ - $3.5^{\text{cm}}$  long, bearing several or many stalked glands; stipules linear or linear-oblong, pectinately-glandular, caducous: flowers, which appear in the vicinity of Valley Head, Alabama (type locality), and when the leaves are nearly grown, disposed in glandular-bracteate, 3-6-flowered corymbs; pedicels  $7^{\text{mm}}$ - $2.5^{\text{cm}}$  long, bearing one or two, pectinately-glandular, caducous bractlets: calyx obconic, the divisions  $4-6^{\text{mm}}$  long, glandular-serrate and with a few stalked glands below the middle: petals nearly orbicular,  $6-10^{\text{mm}}$  in diameter, with a short, broad claw at the base: stamens normally 10,  $5-7^{\text{mm}}$  long, the anthers purplish: styles 3-5, surrounded at the base with pale hairs: fruit subglobose or pyriform,  $10-13^{\text{mm}}$  high,  $9-11^{\text{mm}}$  wide, yellow or greenish-yellow, ripening after the middle of September: nutlets 3-5, hard and bony,  $7-8^{\text{mm}}$  long,  $3-4^{\text{mm}}$  measured from the back to the inner angle, the lateral faces nearly plane and the back grooved and ridged.

*Crataegus straminea* frequently covers large areas on the top of Lookout mountain above Valley Head, Alabama, growing in the shade of oak, pine, and hickory trees, and will probably be found to extend into the adjacent regions of Tennessee and Georgia. It is related to *C. Boyntoni* Beadle, *l. c.*, from which it differs in habit of growth, form and color of fruit, color of the anthers, slender spines, and leaves with more sharply cut borders.

The type material is preserved in the Biltmore Herbarium.

BILTMORE HERBARIUM,  
Biltmore, N. C.